



## LIAISON OF DACTYLOGRAM MOTIFS ALONG BLOOD GROUP, GENDER AS WELL AS LATERALITY AMIDST MEDICAL STUDENTS IN PT. J. N. M. MEDICAL COLLEGE RAIPUR, C.G.

### Anatomy

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### ABSTRACT

This probe imperial blood group was "O" +ve, "AB" +ve was the niggling blood group. Dactylogram motifs are exclusive in particular individual and the unforeseeable of two human beings having alike dactylograms is around one in 64 thousand million. The dactylogram rims contoured as foetal era do not innovation their development either calibration during the whole of the existence of an individual. Dactylograms are valuable in judicial probe peculiarly as recognition intention and espial of assorted felonies. So, we endeavor to delve into dactylogram motifs along blood group with gender.

### KEYWORDS

Recognize, Dactylogram motif, Individual, Coeval, Digit.

### INTRODUCTION

Dactylogram motifs are the inherently decisive impact shoot aside the friction, rim about a hominid digit. The elevated part of the palmer husk epidermis is termed the attrition rim. Its detritus unaltered in distinction to birthing toward deace along with has unique traits imprint in turn motif such authorize us in the direction of recognize in precise hominid<sup>1</sup>. Hominid recognition is inevitable as individual, public as well as juridical proofs<sup>2</sup>. The assorted procedures through that recognize about an individual may be familiar encompass dactylograms, foot marks, sting trails, cheiloscropy, DNA delineating, iris depict etc<sup>3</sup>.

Alike dactylogram motifs additional organic testimony, such endures unaltered during the whole of life, a distinctive is the blood group. Decisive the blood group of an individual in distinction to the sampling collected on the spot of breach, supports recognize an individual. Landsteiner allocated blood groups beneath the ABO blood group system<sup>4</sup>. A blood form, further termed a blood group is an allocation as regard blood placed on the existence either truancy of hereditary antigenic elements at the exterior of RBCs. An Entire of thirty-two blood group structure are presently identified through the International Society of Blood Transfusion. The 2 max decisive somebody are ABO together with the Rh structure. Scientifically 'ABO' along with 'Rhesus' class are of extensive valuable, 'ABO' structure is affixed segregated while A, B, AB, O blood class, kinds agnante to existence about matching antigen in blood<sup>5</sup>.

Dactylogram are persuasive procedure of recognition a pursuit has been built in the coeval endeavour to interpret their reciprocity among gender as well as blood group of a distinctive, so, embellishing the genuineness of dactylograms in apprehension of breach as well as illegitimates. dactylogram proof is assuredly the max trustworthy adequate proof till period in the court of constitution.

### MATERIAL AND METHODS

The coeval delving was cross-sectional observational study amid 180 second year medical pupils, 18 -23 years, 105 male, 75 females, excogitated in Pt. J. N. M. Medical College Raipur Chhattisgarh. We adopted Faber - castell blue color ink pad, magnifying lens, predesigned proforma, gauze, pencil and pen, towel, blood anti serum. Pupil was explained whole doings and gate acquiescence. Blood groups as concerns whole the pupils were distinguish using antiserum A, B and D, blood group dossier was enthralled. We declined entire the particular were any blood disorder, any fist distortions, append, knitted either stucco, stuffing digit, any incessant ailment alike leprosy, eczema hyperkeratosis, dermatitis. Blood groups of the pupils were checked out through pledge for pupil's dribbles of blood at microscope slides along anti-A as well as anti-B sera, Dactylogram motif were archival, pupils were ablation their hand as well as parched, whole digit, step by step in the stamp pad, also etching were captured at a white A4-size papery. Now catching dactylogram ink procedure recommended through Cummins was adopted<sup>6</sup>, loops, whorls, and arches, were identified with the abutment of a magnifying lens. Dossier

evaluation was accomplished by the abutment of computer proving SPSS Version 22. Proving the current software extent, repetitiveness, proportion. chi square test enforced also 'p' values were reckoned.

### OBSERVATION AND RESULTS

In the coeval research, 180 pupils were appropriated, depleted that 75 were females along with 105 were males. We obtained the distribution of blood groups according to gender, maximum O blood group (34.4%) whereas AB blood group contributes minimum 10 (7.8%) of pupils, in male maximum blood group obtained is O (23.3%), minimum AB (2.2%), Rh type blood group, max O+ (22.8%), while in female maximum blood group is B + (13.9%), minimum AB (5.6%) blood group. (table - 1). According to the Chi square test & p value is less than 0.0001 it aired such there is statistically allied betwixt Gender and Blood groups. We obtained, distribution of blood group with dactylogram motif that prevailing motif was loop (55.8%), in max O+ (21.3%) and least one AB+ (2.9%) in whorl (39%) were max B+ (12.3%) and least one AB+ (3.8%). In arches were max O+ (1.8%) and least one AB+ (0.6%). According to the Chi square test & p value is less than 0.0001 it aired such there is statistically allied betwixt dactylogram motifs and blood groups. (table 2). We obtained in distribution of the dactylogram motifs in digits of both hands that the most prevailing, in thumb digit was loop, max 4.7% had O blood group and least 0.9% had AB blood group, in the Index digit loop, max 3.4% in O blood group and least AB blood group 0.6%, in middle digit the loop, max O blood group was 5.3% and least AB blood group had 0.7%, in Ring digit, whorl, max 3.8% O blood group and least 1.1% had AB blood group, in Little digit, loop, max 5.4% had O blood group and least 0.8% had AB blood group. According to the Chi square test & p value is less than 0.0001 it aired such there is statistically allied betwixt dactylogram motif in dissimilar digits of both hands. (table 3). We found liaison of dactylogram motif with gender, preponderance of the pupils of the dactylogram motif was loop 55.8%, ensued the whorl 39.0% and arch 5.2%, in males' loop was 16.9% in left hand 15.7% in right hand, ensued whorl 12.6% in right and 10.7% in left, least was arches 1.6% in left and right 0.9%. Whereas in female loops 11.6% in left and 11.7% in right hand, ensued whorl 8.2% in left and 7.5% in right and least was arches 1.7% in right and 1.1% in left hand. According to the Chi square test 2.133 and p value is 0.487 it aired such there is no statistically akin betwixt the dactylogram motif with gender. (table 4).

### DISCUSSION

The current probe exhibited the occurrence of blood group O, 34.4% was maximum, pursued B, 32.3%, A, 25.6% and the AB, 7.8% blood groups. The identical distribution of blood group is engraved in both male and female appropriately, akin decisions were noted by Bharadwaja et al<sup>7</sup>, we found no significant amelioration betwixt the gender and blood group, p value 0.413. In conflicting to such Amit Patil et al<sup>8</sup>, noted the prevailing blood group in pupils was B, 36.47%, pursued O, 35.88%, A, 18.23%, and the nadir prevailing, AB, 9.4%. The current probe, the distribution of dactylogram motifs prevailing the loop pattern 55.8% was maximum pursued whorl pattern 39% and

then the arch 5.2% in the both the sexes, Arch motif was etched maximum in individuals of blood group A, minimum in blood group AB, ascertained by Deopa et al<sup>9</sup>, notwithstanding in divergence max in the individual of AB blood group and the nadir B type found kshirsagar et al<sup>10</sup>.

The bestow probe topmost of whorl in individual of B type and lowest

in AB type. Alike, the whorl motif was max in individual of B type and lowest in O type found Mehta et al<sup>11</sup>. We found the max in both hands were loop 55.8%, whorl 39%, arch 5.2%. Remarkably prevailing in thumb, index, middle and little finger was loop pattern in both hands. Remarkably prevailing in ring finger was whorl in both hands. An agnate probe done by Rakesh M Marigoudar et al<sup>12</sup>. We found max, in ring finger was whorl. An agnate probe done by Barshikha katwal et al<sup>13</sup>.

**Table 1: Distribution Of Pupils Based On The Gender And Rh Type Blood Groups:**

Gender	Blood group								
	A+ve	A-ve	B+ve	B-ve	AB+ve	AB-ve	O+ve	O-ve	Total
Male	26 (14.4%)	00 (0%)	30 (16.7%)	03 (1.7%)	03 (1.7%)	01 (0.6%)	41 (22.8%)	01 (0.6%)	105 (58.3%)
Female	20 (11.1%)	00 (0%)	25 (13.9%)	00 (0%)	10 (5.6%)	00 (0%)	20 (11.1%)	00 (0%)	75 (41.7%)
Total	46 (25.6%)	00 (0%)	55 (30.6%)	03 (1.7%)	13 (7.2%)	01 (0.6%)	61 (33.9%)	01 (0.6%)	180 (100%)
Chi-square test	X <sup>2</sup> =11.34, P<0.0001; Statistically significant								
P value	X <sup>2</sup> =23.22, P<0.0001; Statistically significant								
Statistical Significance at 5% level	X <sup>2</sup> =19.18, P<0.0001; Statistically significant								

**Table 2: Distribution Of Dactylogram Motif With Blood Groups In Male And Female: (n=1800)**

Fingerprint pattern	Blood group A		Blood group B		Blood group AB		Blood group O		Total
	+ve	-ve	+ve	-ve	+ve	-ve	+ve	-ve	
Arch	27 (1.5%)	00	23 (1.3%)	00(0%)	10 (0.6%)	01 (0.1%)	33 (1.8%)	00 (0%)	94 (5.2%)
Loop	234 (13.0%)	00	305 (16.9%)	13 (0.7%)	51 (2.8%)	09 (0.5%)	384 (21.3%)	08 (0.4%)	1004 (55.8%)
Whorl	199 (11.1%)	00	222 (12.3%)	17 (0.9%)	69 (3.8%)	00 (0%)	193 (10.7%)	02 (0.1%)	702 (39%)
Total	460 (25.6%)	00	540 (30%)	30 (1.7%)	130 (7.2%)	10 (0.6%)	610 (33.9%)	10 (0.6%)	1800 (100%)
Chi-square test	22.78				18.78		56.23		
P value	<0.0001				<0.0001		<0.0001		
Statistical Significance at 5% level	significant				significant		significant		

**Table 3: Distribution Of Dactylogram Motif In Individual Digits Of Both Hands In Male And Female: (n=1800)**

Fingerprint pattern	Blood group A			Blood group B			Blood group AB			Blood group O			Total
	A	L	W	A	L	W	A	L	W	A	L	W	
Thumb	03 (0.2%)	39 (2.2%)	50 (2.7%)	05 (0.3%)	60 (3.3%)	51 (2.8%)	00 (0%)	17 (0.9%)	11 (0.6%)	02 (0.1%)	85 (4.7%)	37 (2.1%)	360 (20%)
Index	13 (0.7%)	42 (2.3%)	37 (2.1%)	10 (0.6%)	57 (3.2%)	49 (2.7%)	03 (0.2%)	10 (0.6%)	15 (0.8%)	22 (1.2%)	62 (3.4%)	40 (2.2%)	360 (20%)
Middle	05 (0.3%)	61 (3.4%)	26 (1.4%)	03 (0.2%)	80 (4.4%)	33 (1.8%)	04 (0.2%)	12 (0.7%)	12 (0.7%)	06 (0.3%)	96 (5.3%)	22 (1.2%)	360 (20%)
Ring	03 (0.2%)	37 (2.1%)	52 (2.9%)	00 (0%)	47 (2.6%)	69 (3.8%)	03 (0.2%)	06 (0.3%)	19 (1.1%)	02 (0.1%)	52 (2.9%)	70 (3.8%)	360 (20%)
Little	03 (0.2%)	55 (3.1%)	34 (1.9%)	05 (0.3%)	74 (4.1%)	37 (2.1%)	01 (0.1%)	15 (0.8%)	12 (0.7%)	01 (0.1%)	97 (5.4%)	26 (1.4%)	360 (20%)
Total	27 (1.5%)	234 (13%)	199 (11.1%)	23 (1.3%)	318 (17.7%)	239 (13.3%)	11 (0.6%)	60 (3.3%)	69 (3.8%)	33 (1.8%)	392 (21.8%)	195 (10.8%)	1800 (100%)
Chi-square test	16.78			21.83			38.22			43.28			
P value	<0.0001			<0.0001			<0.0001			<0.0001			
Statistical Significance at 5% level	significant			significant			significant			significant			

**Table 4: Association Of Dactylogram Motif With Gender (Male And Female)**

Fingerprint pattern	Male			Female			Total
	Right	Left	Total	Right	Left	Total	
Arch	16 (0.9%)	28 (1.6%)	44 (2.4%)	30 (1.7%)	20 (1.1%)	50 (2.7%)	94 (5.2%)
Loop	282 (15.7%)	304 (16.9%)	586 (32.6%)	210 (11.7%)	208 (11.6%)	418 (23.2%)	1004 (55.8%)
Whorl	227 (12.6%)	193 (10.7%)	420 (23.3%)	135 (7.5%)	147 (8.2%)	282 (15.7%)	702 (39%)
Total	525 (29.2%)	525 (29.2%)	1050 (58.3%)	375 (20.8%)	375 (20.8%)	750 (41.7%)	1800 (100%)
Chi-square test	2.133						
P value	0.487						
Statistical Significance at 5% level	Not significant						

## CONCLUSION

It is a notorious reality that the dactylograms are not ever alike not yet they alteration from birth till death. So, an endeavour was fashioned to reveal dactylograms with gender, divergent blood group and Rh types to endorse these motifs in the recognition and judicial, anatomy, remedy in addition to revelation of convinced ailment. It was ascertained that loops are max and arches are nadir of dactylogram

motif among males and females. The coeval probe governed that the imprecise allocation of divergent motif is not pertinent to gender, ABO blood group, Rh blood type, individual digits of both hands such type of probe contributes additional meticulous outcome, when governed at an abundant range on unlike racial class of human being.

**Competing Interests:** We have no competing interests.

**Author's Contribution:** Dr. Seema Tigga has made to collection of samples, procedure, revising manuscript, tabulation arrange the image. Dr. Jagriti Agrawal has made to preeminent guide of this probe, conception. Dr. Rajni Thakur has made to drafting the manuscript, arrange the image, covert images in JPG file.

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**List Of Abbreviations:** None declared.

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